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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,841	03/26/2004	Fumio Futami	826.1940	8145
21171	7590	02/24/2006	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			ROGERS, KELLY A	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/809,841

Applicant(s)

FUTAMI ET AL.

Examiner

Kelly A. Rogers

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-8 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 9 and 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/25/05, 8/20/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Specification

1. The specification is objected to because of the improper referenced number to the diffraction grating on page 10, line 12. The reference number presented is 33, but in figure 4 the diffraction grating is numbered as 34. The specification should be modified to reflect the actual diffraction grating reference number.
2. The specification is further objected to due to the unclear disclosure of a liquid crystal modulator arrangement. Page 12, lines 9-11 states "if liquid crystal modulators the width of which is 0.1 mm are arranged by 128..." It is indefinite what the arrangement of 128 is teaching. The specification should be modified to clarify the disclosure.

Claim Objections

3. Claims 7 and 9 are objected to because of the following informalities: Claim 7 recites the limitation "said spectrum expansion" on page 16. There is insufficient antecedent basis for this limitation in the claim. Claim 9 recites the limitation "said light pulse shaping" on page 16. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 6-8 are rejected under 35 U.S.C. 102(b) as being unpatentable over Watanabe (2002/0041618).

5. As to claims 1 and 6, Watanabe teaches a multi-wavelength light source comprising an optical pulse light source outputting an optical pulse sequence with an optical pulse shaping unit making a shape of an optical pulse output from said optical pulse light source into a super Gaussian pulse of a third order or higher [page 3, paragraphs 46-50 and the resulting pulse is illustrated in figures 1A and 1B]. Watanabe also teaches a spectrum expanding unit expanding a spectrum of an optical pulse sequence composed of shaped optical pulses and an optical splitting unit splitting the optical pulse sequence, the spectrum of which is expanded into light beams of respective frequencies [figure 9 and paragraphs 110-112].

6. As to claims 2 and 7, Watanabe teaches that the spectrum expanding unit expands the spectrum by using an optical fiber as a nonlinear medium [paragraph 111 and figure 9].

7. As to claims 3 and 8, Watanabe teaches the spectrum expanding unit expands the spectrum by using a highly nonlinear fiber or a holey fiber as a nonlinear medium [paragraph 57].

8. Claims 4,5,9, and 10 are objected to because they are dependent upon claims that are rejected, but are otherwise allowable.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
10. The following patents are cited to further show the state of the art with respect to multi-wavelength light source methods and apparatus in general:

U.S. Pat. No. 6,195,484 to Brennan

U.S. Pat. No. 5,530,544 to Trebino

U.S. Pat. No. 6,801,554 to Delfyett

U.S. Pat. No. 5,923,683 to Morioka

U.S. Pat. No. 6,341,028 to Bahuguna

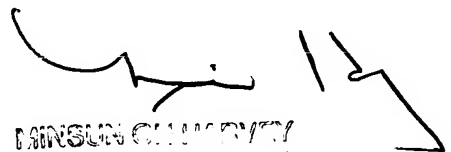
U.S. Pat. Appl. 2004/0179842 to Futami

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly A. Rogers whose telephone number is 571-272-8047. The examiner can normally be reached on Monday through Friday 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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